

I Claim:

1. An adaptor for a cup having a longitudinal axis, the cup having side walls tapered along a length of that axis and having a smaller bottom and forming a larger circular opening with a bead around the opening, the adaptor comprising:
a cap with a spout thereon, the spout having openings in fluid communication with an inside of the cap;
an annular base depending from the cap and having threads on an exterior surface of the base, the base having a recess sized to engage the bead of the cup during use of the cap, the base and threads being sized to threadingly engage the walls of the cup during use of the cap sufficiently to hold the cup to the cap.
2. The adaptor of Claim 1, further comprising at least one handle extending from the cap and along the longitudinal axis an axial distance that extends beyond the base.
3. The adaptor of Claim 1, further comprising a lip opposite the wherein the base is a cylinder.
4. The adaptor of Claim 1, further comprising a lip opposite the base and defining a portion of the recess to more fully enclose the bead of the cup during use of the cap.
5. The adaptor of Claim 4, wherein the distance between the lip and the opposing wall of the base is smaller than a diameter of the bead of the cup to which the cap is fastened during use.
6. The adaptor of Claim 1, wherein the base has a distal end tapered toward the longitudinal axis.
7. The adaptor of Claim 6, wherein the relative taper between the base and the cup is less than about 5 degrees.
8. The adaptor of Claim 1, wherein there are about four or fewer threads.
9. The adaptor of Claim 1, further comprising a flat portion on the exterior, distal end of the base.

10. The adaptor of Claim 1, wherein the recess comprises an annular recess having a circular cross-section and enclosed on three sides by the cap, the circular cross section having a center that is at about the same radius from the longitudinal axis as is the center of the bead of the cup from the longitudinal axis.
11. The adaptor of Claim 1, wherein the recess comprises an annular recess having a circular cross-section and enclosed on three sides by the cap, the circular cross section having a center that is at a slightly larger radius from the longitudinal axis than is the center of the bead of the cup.
12. The adaptor of Claim 1, wherein the threads are formed on an annular insert fastened to the base and made of a softer material than the base.
13. The adaptor of Claim 1, wherein the threads comprise annular rings orthogonal to the longitudinal axis, and are formed on an annular insert fastened to the base and made of a softer material than the base.
14. The adaptor of Claim 1, further comprising the cup fastened to the adaptor, and wherein the threads on the base deform the walls of the cup without tearing the walls.
15. The adaptor of Claim 14, wherein the recess engages a lower portion of the bead of the cup.
16. The adaptor of Claim 15, wherein the bead is compressed in the recess to form an oval having a long axis parallel to the longitudinal axis of the cup.
17. The adaptor of Claim 15, wherein the bead is compressed in the recess to form an oval having a long axis orthogonal to the longitudinal axis of the cup.
18. An adaptor for a cup having a longitudinal axis, the cup having side walls tapered along a length of that axis and having a smaller bottom and forming a larger circular opening with a bead around the opening, the adaptor comprising:

a cap with a spout thereon, the spout having openings in fluid communication with an inside of the cap;

an annular base depending from the cap and having means for engaging the walls of the cup during use of the cap sufficiently to hold the cup to the cap.

19. The adaptor of Claim 18, wherein the means are on an insert.
20. A method for fastening a cap to a cup, the cup having a longitudinal axis with side walls tapered along a length of that axis and having a smaller bottom and forming a larger circular opening with a bead around the opening, the cap having a spout with openings in fluid communication with an inside of the cap, comprising:
 - providing an annular base depending from the cap with threads on an exterior surface of the base;
 - providing the base with a recess sized to engage the bead of the cup during use of the cap; and
 - threadingly engaging the walls of the cup with the threads.
21. The method of Claim 20, further comprising threadingly engaging the walls of the cup with the threads until the recess engages the bead of the cup.
22. The method of Claim 20, further comprising providing at least one handle to extend from the cap and along the longitudinal axis an axial distance that extends beyond the base.
23. The method of Claim 21, further comprising providing a lip opposite the base and forming a portion of the recess and more fully enclosing the bead of the cup.
24. The method of Claim 20, comprising forming the threads on an annular insert.
25. The method of Claim 24, further comprising forming the annular insert of a softer material than the base.